10/019284

10 Rec'd PCT/PTO 03 MAY 2002

SEQUENCE LISTING

<110> IZUI, MASAKO
SUGIMOTO, MASAKAZU
KURAHASHI, OSAMU
NAKAMATSU, TSUYOSHI

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<141> 2002-01-02

<150> JP 11-189512
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1               5                   10                  15

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Arg Arg Gln His Cys Arg Arg Arg Thr Leu Cys Asn Ala Phe Thr Pro
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Asn Leu Gln Arg His Arg Cys Val His Arg Ala Ala Gln Arg Cys Cys
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Gly     Gln Arg Gln Leu Val Gln Pro Cys Cys Glu Gly Ile Gly Gly
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His Phe Arg Pro Ala Asp Ser Asn Leu Gly Trp Trp Arg Ser Ala His
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Gly Tyr Gln Gln Cys Val Gly Cys Ala Gly Ser Val Arg Ser Ala Ile
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Thr Gly Gly Asp Val Pro Ser Asp Gln Arg Cys Cys     Asp Asp Gln
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Pro Asp Gly Ile Cys Ala Val Arg Val Leu Ala Ser Val Gly Trp Phe
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cac cgc aac caa gcg ttt cgg tgg caa tga gtt cct ggg cgc cgg cat      4354
His Arg Asn Gln Ala Phe Arg Trp Gln     Val Pro Gly Arg Arg His
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tgg tat ggc gat ggt gtt ccc aac cct ggt taa cgg cta cga cgt ggc      4402
Trp Tyr Gly Asp Gly Val Pro Asn Pro Gly     Arg Leu Arg Arg Gly
185                 190                 195

cgc cac cat gac cgc ggg cga aat gcc aat gtg gtc cct gtt tgg ttt      4450
Arg His His Asp Arg Gly Arg Asn Ala Asn Val Val Pro Val Trp Phe
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gga tgt tgc tca agc tgg tta cca ggg cac cgt gct tcc tgt gct ggt      4498
Gly Cys Cys Ser Ser Trp Leu Pro Gly His Arg Ala Ser Cys Ala Gly
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Gly Leu Leu Asp Ser Gly Asn Asp Arg Glu Val Pro Ala Gln Ala Thr
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cat ggg cac tgc aga ctt cct gat cac ccc agt gtt gac tct gct gct      4594
His Gly His Cys Arg Leu Pro Asp His Pro Ser Val Asp Ser Ala Ala
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Gly     Leu Ala Gly Thr Arg Ser Ala Gly Thr Leu     Phe Arg Trp
280                 285                 290

tcc agt cgg cgg tct gct ttt cgg tct ggt cta ctc acc aat cgt tat      4738
Ser Ser Arg Arg Ser Ala Phe Arg Ser Gly Leu Leu Thr Asn Arg Tyr
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cac tgg tct gca cca gtc ctt ccc gcc aat tga gct gga gct gtt caa      4786
His Trp Ser Ala Pro Val Leu Pro Ala Asn      Ala Gly Ala Val Gln
310                 315                 320

cca ggg tgg atc ctt cat chc gca acc gca tcc atg gcc aat atc gcg      4834
Pro Gly Trp Ile Leu His Xaa Ala Thr Ala Ser Met Ala Asn Ile Ala
325                 330                 335                 340

cag ggt gca gca tgt ttg gca gtg ttc ttc cta gcg aag agt gaa aag      4882
Gln Gly Ala Ala Cys Leu Ala Val Phe Phe Leu Ala Lys Ser Glu Lys
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ctc aag ggc ctt gca ggt gct tca ggt gtc tcc gct gtt ctt ggt att      4930
Leu Lys Gly Leu Ala Gly Ala Ser Gly Val Ser Ala Val Leu Gly Ile
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aca gag cct gcg atc ttc ggt gtg aac ctt cgc ctg cgc tgg ccg ttc      4978
Thr Glu Pro Ala Ile Phe Gly Val Asn Leu Arg Leu Arg Trp Pro Phe
        375                 380                 385

tac att ggt atc ggt acc gca gct atc ggt ggc gct ttg att gca ctc      5026
Tyr Ile Gly Ile Gly Thr Ala Ala Ile Gly Gly Ala Leu Ile Ala Leu
    390                 395                 400

ttt gat atc aag gca gtt gcg ttg ggc gct gca ggt ttc ttg ggt gtt      5074
Phe Asp Ile Lys Ala Val Ala Leu Gly Ala Ala Gly Phe Leu Gly Val
405                 410                 415                 420

gtt tct att gat gct cca gat atg gtc atg ttc ttg gtt tgc gcg gta      5122
Val Ser Ile Asp Ala Pro Asp Met Val Met Phe Leu Val Cys Ala Val
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gtt acc ttt gtc atc gca ttc ggc gca gcg att gct tat ggc ctt tac      5170
Val Thr Phe Val Ile Ala Phe Gly Ala Ala Ile Ala Tyr Gly Leu Tyr
            440                 445                 450

ttg gtt cgc cgc aac ggc agc att gat cca gat gca acc gct gct cca      5218
Leu Val Arg Arg Asn Gly Ser Ile Asp Pro Asp Ala Thr Ala Ala Pro
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gtg cct gca gga acg acc aaa gcc gaa gca gaa gca ccc gca gaa ttt      5266
Val Pro Ala Gly Thr Thr Lys Ala Glu Ala Glu Ala Pro Ala Glu Phe
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tca ggt gtt gcg atc gtc ccc acc aag ggg cag ctg gtt tca cca gtg      5410
Ser Gly Val Ala Ile Val Pro Thr Lys Gly Gln Leu Val Ser Pro Val
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agc gga aag atc gtg gtg gcc ttc cca tct ggt cac gct ttc gca gtc      5458
Ser Gly Lys Ile Val Val Ala Phe Pro Ser Gly His Ala Phe Ala Val
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cgc act aag gct gag gat ggt tcc aat gtg gat atc ttg atg cac att      5506
Arg Thr Lys Ala Glu Asp Gly Ser Asn Val Asp Ile Leu Met His Ile
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ggt ttc gac acc gta aac ctc aac ggc acg cac ttt aac ccg ctg aag      5554
Gly Phe Asp Thr Val Asn Leu Asn Gly Thr His Phe Asn Pro Leu Lys
565                 570                 575                 580

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Lys Gln Gly Asp Glu Val Lys Ala Gly Glu Leu Leu Cys Glu Phe Asp
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att gat gcc att aag gct gca ggt tat gag gta acc acg ccg att gtt      5650
Ile Asp Ala Ile Lys Ala Ala Gly Tyr Glu Val Thr Thr Pro Ile Val
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Val Ser Asn Tyr Lys Lys Thr Gly Pro Val Asn Thr Tyr Gly Leu Gly
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gaa att gaa gcg gga gcc aac ctg ctc aac gtc gca aag aaa gaa gcg      5746
Glu Ile Glu Ala Gly Ala Asn Leu Leu Asn Val Ala Lys Lys Glu Ala
    630                 635                 640

gtg cca gca aca cca taagttgaaa ccttgagtgt tcgcacacag gttagactag      5801
Val Pro Ala Thr Pro
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20 25 30

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35 40 45

Pro Ala Gln Ala Thr His Gly His Cys Arg Leu Pro Asp His Pro Ser
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Leu Arg Trp Pro Phe Tyr Ile Gly Ile Gly Thr Ala Ala Ile Gly Gly
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Ala Leu Ile Ala Leu Phe Asp Ile Lys Ala Val Ala Leu Gly Ala Ala
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Ala Pro Ala Glu Phe Ser Asn Asp Ser Thr Ile Ile Gln Ala Pro Leu
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Thr Gly Glu Ala Ile Ala Leu Ser Ser Val Ser Asp Ala Met Phe Ala
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Leu Val Ser Pro Val Ser Gly Lys Ile Val Val Ala Phe Pro Ser Gly
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His Ala Phe Ala Val Arg Thr Lys Ala Glu Asp Gly Ser Asn Val Asp
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Ile Leu Met His Ile Gly Phe Asp Thr Val Asn Leu Asn Gly Thr His
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Leu Cys Glu Phe Asp Ile Asp Ala Ile Lys Ala Ala Gly Tyr Glu Val
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